

The dorsal fin commences immediately behind the pectoral fins. The ventral fins (♀) are almost truncated behind, between the rounded angles; their breadth enters about $2\frac{1}{2}$ times in the length. The tail is four or five times as long as the body.

The color is bluish-black above, relieved on the head by the numerous, but rather distant, whitish or yellowish spots, smaller than the eye, much larger on the body and behind towards the sides, and on the ventrals sometimes assuming the form of ocelli; below white; pectorals margined with blackish.

This species is closely related to *Ætobatis narinari* and its allies, and especially *Æ. latirostris* A. Dum, but is apparently distinguished by the combination of characters given in the diagnosis. It belongs to the genus *Goniobatis* Ag., proposed for species with a more angular lower dental plate than *Æt. narinari*, and is related to the *Goniobatis meleagris* Ag.,* of the Sandwich Islands, but is distinguished by the more declivous forehead, and the shape of the rostro-frontal fontanelle.

A single specimen was forwarded to the Smithsonian Institution by S. E. Hubbard, Esq., of San Francisco, California.

XIV.—On a remarkable New Type of Fishes allied to NEMOPHIS.

By THEODORE GILL.

Read April 8, 1865.

FAMILY NEMOPHIDÆ (Kaup).
SUB-FAMILY PLAGIOTREMATINÆ Gill.
Genus *Plagiotremus* Gill.

Body naked, much compressed, very gradually decreasing in height towards the base of the caudal fin, and with no constriction; the sides

* This species has not been characterized, but a dried *Ætobatine* obtained at the Sandwich Islands by the Wilkes Exploring Expedition, probably belongs to it.

flat, and the back and belly rounded; anus near the end of the anterior fourth of the length.

Lateral line a simple groove, high up and on the side of the back, not continued to the caudal.

Head oblong quadrate, transversely convex above and behind; the forehead slightly declivous, the snout projecting and convex in front, but obliquely truncated below and flattened towards the mouth; the sides compressed and the lower surface quite plane.

Eyes moderate, circular, intersecting the profile and mostly in the anterior half of the head. *Suborbital chain* complete, narrow in front, widest below, with its surface corrugated. Opercular apparatus complete; *preoperculum* very oblique; *operculum* high, nearly rectangulate-triangular, ending in the "opercular angle," and with the base or upper portion concealed under the skin by which it is attached to the shoulder; *interoperculum* moderate; *suboperculum* below and behind the operculum, and narrowed towards the angle of the latter.

Mouth inferior, in front of the eyes, with the cleft shallow, and the anterior or dentigerous margin of the jaws *transverse* and *perfectly straight*; *jaws* above immovable and undistinguishable without dissection; lower jaw nearly flat and very wide, expanded and thinner towards the front, which is perfectly rectilinear transversely. Gape very wide, the lower jaw, which, when closed, shuts obliquely upwards, being capable of retraction even behind the vertical. Intramaxillar veil well developed. *Tongue* small, far within the mouth.

Teeth only on the transverse portion of the jaws, uniserial, inserted on the external surface, sigmoidally curved, chiefly compressed transversely to the jaws, but with the tips projecting beyond the edge, compressed even with the jaws and forming a continuous incisorial edge; in the lower jaw, on each side of the series of small teeth, a very large curved canine is developed, which is received in a preocular fossa of the palate.

Branchial apertures minute, placed far up behind the operculum.

Branchiostegal rays six, well developed, the outer laminar.

Dorsal fin continuous from nape above preoperculum nearly to the caudal fin, with its anterior rays slender, inarticulated spines, and its posterior simply articulated rays.

Anal fin continuous from the anal region nearly to the caudal.

Caudal well developed, oblong, emarginated,* with its rays simply articulated, and with an external elongated one above and below.

Pectoral fins low, angular, with the rays slender and simply articulated, and the connecting membrane thin and not notched.

Ventral fins, obsolete.

Such is the combination of characters which distinguishes this remarkable genus. The result of its examination assures the certainty that the genus is related to the Blennioids, but the peculiar modification of the oral apparatus, the elongated body, and the absence of ventral fins, indicate that it does not belong to the same family, but must be regarded as the representative of one nearly allied to it. To it, however, the *Nemophis Lessoni* Kaup may possibly be referred.

The genus *Nemophis** was proposed by Kaup for the reception of a fish discovered by Lesson and Garnot, on the Expedition of Duperrey, and was regarded as forming "a distinct group among the Riband-shaped Fishes," and as "perhaps the type of a different family which we may call *Nemophidæ*." If by the "Riband-shaped fishes" the *Cepolidæ*, *Trachypteridæ*, *Lophotidæ*, or any other allied types are meant, this view is certainly erroneous. Its affinities with the *Blennioid* alliance are obvious, and, as Dr. Günther has very well remarked, it has with the riband-shaped fishes "nothing in common, except the elongate form." *Nemophis* is distinguished for its compressed anguilliform body tapering backwards and terminating in a slender tail, while the profile is decurved to the jaws and the snout not prominent. It will be therefore necessary, if the new genus and *Nemophis* are retained in the same family, to consider each as the type of a peculiar sub-family.

Plagiotremus spilistius, Gill.

The height at the anus is contained 20 times in the length, *exclusive* of the caudal, and that at the base of the caudal nearly 30 times. The

* A species of *Nemophis* from Madagascar, is in Mr. Brevoort's collection.

head forms rather more than an eleventh of the length, and is twice as long as high. The length of the snout to the diameter of the eye is about equal, and exceeds a fourth of the head's length. The length of the pectoral fin exceeds a seventh of the length. The well developed caudal has a lunate emargination, and its inner rays exceed a twelfth of the length, while the largest external ones exceed a sixth.

The color is purplish, uniform on the body, while the dorsal is darker and furnished with several rows of blackish dots; the caudal has two dark dots near the base, from the upper of which a streak advances forwards; the pectoral, externally, has a single dark dot near the base of the upper rays.

A single specimen, five inches and a half long, was found in the Chinese seas by Dr. William Stimpson, during the voyage of the North Pacific Exploring Expedition.

XV.—*On a New Family Type of Fishes related to the*
BLENNIIDS.

BY THEODORE GILL.

Read April 3, 1865.

FAM. CHÆNOPSIDÆ.

Genus Chænopsis, Poey.

Body naked, compressed, almost anguilliform, with the back and abdomen obtuse; very gradually decreasing in height to the caudal fin. *Anus*, submedian.

Lateral line, a simple furrow running nearly along the middle of the side.

Head much elongated, quadrate behind at the opercular region, conic in front, with the profile rectilinear and the snout acute.

Eyes moderate, circular, partly in the anterior third of the head. *Suborbital* chain well developed, perfectly ossified; preorbital triangular, pointed in front; portion under the eye narrow; behind, especially at the lower angle, enlarged.